

CLAIMS

1. Stirrup for reinforcing load bearing elements consisting of a plurality of consecutive windings (7a, 7b) disposed along the longitudinal direction of the stirrup, so that the stirrup has a spiral form, whereby the windings of the stirrup form a plurality of discrete cages (5a, 5b) to house the main reinforcement rods (1a, 1b) of the load bearing element.
2. Stirrup according to claim 1, whereby the stirrup comprises n cylindrically- or approximately cylindrically-shaped cages, where n is an integer greater or equal to 2, and whereby the projections of each n-th winding provided along a portion at least of the length of the stirrup, on a transverse plane coincide.
3. Stirrup according to claim 1 or 2, whereby the stirrup comprises two and only two cages to house the main reinforcement rods of the load bearing element.
4. Stirrup according to claim 1 or 2, whereby the stirrup comprises at least four cages (5a, 5b, 5c, 5d) to house the main reinforcement rods of the load bearing element.
5. Stirrup according to any of the preceding claims, whereby the projection of the stirrup on a transverse plane coincides to the cross section of a load bearing element comprising at least one web and at least one flange.
6. Stirrup according to any of the claims 1, 2, 3, 5 whereby the shape of the windings on a transverse plane is orthogonal and adjacent windings are so disposed, that the long dimension of each winding is normal to the long dimension of its adjacent windings, so that the projection of the stirrup on the transverse plane is T like.

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7. Stirrup **according to claim 1 or 2**, whereby in that the stirrup comprises an outer cage which houses all other cages of the stirrup.
8. Stirrup **according to any of the preceding claims**, whereby the stirrup is made of a continuous extruded steel rod.
- 5 9. Stirrup **according to any of preceding claims**, whereby the stirrups are made from composite material.
- 10 10. Stirrup **according to any of proceeding claims**, whereby the windings are disposed on substantially transverse planes and consecutive windings are joined by substantially longitudinal elements.
- 10 11. Stirrup **according to any of preceding claims**, whereby the distance between consecutive windings is uniform.
12. Stirrup **according to any of preceding claims**, whereby the distance between consecutive windings is variable.
- 15 13. Stirrup **according to any of preceding claims**, whereby the stirrup comprises two spiral elements (3', 3'') disposed longitudinally and joined at their ends, so that the one of the two elements extends towards one side of the said joined ends and the other of the two elements extends towards the other side of the said joined ends.
- 20 14. Stirrup **according to claim 13**, whereby the two spiral elements is welded together.
15. Stirrup **according to claim 13 or 14**, whereby the first and/or the second of said elements are stirrups **according to any of the claims 1 to 12**.
16. A prefabricated load bearing element comprising a stirrup **in accordance with any of the claims 1 to 15**.

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CLAIMS

1. Stirrup for reinforcing load bearing elements consisting of a plurality of consecutive windings (7a, 7b) disposed along the longitudinal direction of the stirrup, so that the stirrup has a spiral form, characterized in that the windings of the stirrup form a plurality of discrete cages (5a, 5b) to house the main reinforcement rods (1a, 1b) of the load bearing element.
18. Method of reinforcing a load bearing element whereby the principle rod elements of the reinforcement are housed within the windings of a spiral shaped stirrup with a plurality of consecutive windings, characterized in that the stirrup comprises a plurality of cages (5a, 5b), with each cage (5a, 5b) tightening a different set of principal rod elements.
19. A load bearing element whereby the principle bar elements of the reinforcement are housed within the windings of a spiral shaped stirrup with a plurality of consecutive windings, characterized in that the stirrup comprises a plurality of cages (5a, 5b), with each cage (5a, 5b) tightening a different set of principal rod elements.